1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

twigs having a very remote similarity to human figures serve this purpose. They are also called "protectors" (ine'njulanu). However, this latter term is applied to the entire group of guardian-charms. The people usually wear the little kalaks attached to the belt, when travelling or hunting without companions. The Koryak are afraid to drive or walk alone through the woods or in the wilderness, because they believe that evil spirits (kalau), which haunt such places in large numbers, may easily overcome a lonely traveller. In such cases the little kalaks replace fellow-travellers, and serve as guardians against evil spirits. Another string of guardians (Fig. 7, *b*) contains a small human figure made of grass, charmed beads representing drums, and wolf's and hare's hair braided with sinew-thread. The Reindeer Koryak call the string of guardians okka'mak-lō[e]; that is, "wooden kamak face."[1] A snow-beater of antler, with a handle carved in the form of a raven-beak (Fig. 8), is also regarded as a fellow-traveller and guardian.

Fig. 6 ($\frac{1}{1}\frac{1}{1}$). Guardian of Nets. Length, 21 cm.

Fig. 7, *a* ($\frac{1}{1}\frac{1}{1}$), *b* ($\frac{1}{1}\frac{1}{1}$). Strings of "Little Kalaks," or Guardians. Length of figure, 4 cm.

The-Searching-Kamak-Face. — This kalak (En-a'yıs-ka'mak-lō[e], literally "the searching kamak face") is the special protector of babies. It is usually sewed to the back of the child's shirt-collar[2] (Fig. 9, *a*). In the village of Paren I obtained such a protector attached to a strap (Fig. 9, *b*), which the child used to wear around the neck, under the shirt, like a cross; but

[1] See p. 38, Footnote 3.

[2] It is interesting to compare this with the custom of the Eskimo of Baffin Land, where a woman who is with child wears an amulet attached to the back of her inner shirt (Boas, *Baffin-Land Eskimo*, p. 143); and among the Central Eskimo, amulets are always worn on the middle of the back of the inner jacket (Boas, *Central Eskimo*, p. 592).

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

shores. Owing to the constant cold fogs in the beginning of summer and the heat-energy expended in melting the snow, the earth gets but little heated. More or less clear and comparatively warm days come not earlier than at the end of July and beginning of August. The soil, however, thaws out only to an inconsiderable depth.

Regular observations with reference to this matter have hardly been carried on as yet, but all over that region the natives utilize a hole in the ever-frozen soil as a cellar in which to preserve their provisions. Slunin found a frozen layer of soil in the Gishiga tundra at a depth of 0.9 metres, and on the Stolbovoi tundra at a depth of from 0.36 to 0.54 metres.[1] Dittmar found in summer, near Gishiginsk, a thick layer of fossil ice at a depth of from 45 cm. to 60 cm.[2] On the Sedanke River he found the frozen soil at a depth of from 60 cm. to 90 cm.[3]

On the northern slopes of even very small heights, in gorges, or in rocky bays, the ice-glazed snow, hardened by the winds, melts only toward the end of August. The moist, moss-covered turf-layer of the tundra is another means by which the heat is prevented from penetrating deep into the soil. The rain-water and the water from the melting snow, which evaporates but very slightly, unable to penetrate the frozen soil, stagnate on the surface of the plain, forming extensive swamps, and rendering all communication difficult or impossible during summer. Thus, from the beginning of May until the middle or end of October, the Russian settlement of Gishiginsk, as well as other settlements, is completely cut off from the Koryak villages and camps.

Communication between points situated at a short distance from one another is carried on by the Koryak on foot, and by the Tungus by riding their reindeer. The animals best adapted for use in moving from place to place in that swampy region would be pack-horses; but there are very few horses available, particularly in the Gishiga district. The Russian inhabitants of Gishiginsk owned in 1901 only about sixty-five horses, brought thither at different times from the Yakutsk Province. Though these horses are very hardy, they cannot long endure the journeying through the swamps, but wear out quickly, since they have only the scant green fodder upon which to depend. The Russians use them only for short-distance riding between their own settlements along the Gishiga River, or from the settlement Gishiginsk to the Tungus fairs on the Varkhalan and Nayakhan Rivers; and seldom during summer does a Russian merchant venture even to the nearest Koryak villages.

For getting over from Gishiga to Paren (Poitn) in the fall of 1900, I

[1] See Slunin, I, p. 250.
[2] See Dittmar, Reisen in Kamtschatka, pp. 407, 431.
[3] Ibid., p. 483.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

succeeded in hiring twenty saddle and pack horses.[1] The distance from Gishiginsk to the Koryak village of Paren (about a hundred miles), which in winter is covered in two days when driving with dogs, occupied us eighteen days. It must be added, however, that the conditions were particularly unfavorable. After a very rainy summer the swamps were unusually deep, and, just before crossing the northern part of the Taigonos Ridge, we were suddenly overtaken by a violent snow-storm, which forced us to stop for three days. It so happened that the place where we stopped afforded only very poor pasture; and our horses, tired out by the journey of the preceding days, were completely exhausted.

Good fodder-grass is, as a rule, very rare in that region. The swamps are covered mainly with varieties of reed-grass (*Cyperaceæ*), horse-tails (*Equisetaceæ*), and ferns, which are not very nourishing. In civilized countries many of these grasses, which serve here as fodder for horses, are regarded as harmful for cattle. Thus the horses hardly managed to drag us up to the Koryak village. Of the horses which I sent back to Gishiga with a driver, six died on the way from the effects of a snow-storm, and six in Gishiginsk soon after their arrival in that place.[2]

It may be remarked in this connection that among the horse-tails, the preponderance of which among the pasture-grass frequently produces epizoöty even among the by no means fastidious cattle of northern Siberia, there are found some useful varieties. One species, *Equisetum scirpoides* Mich., is particularly liked by the Yakut horses. The horses of the arctic region fatten in two or three weeks on pastures covered with this variety of horse-tail. On our way from the Gishiga territory toward the Kolyma, in the fall of 1901, we came across an enormous pasture-ground covered with *E. scirpoides* at the source of the Gishiga River, and the Yakut asked me to stop there for a day in order to give the horses a chance to recuperate on that pasture.

VEGETATION. — Very few varieties of trees are represented in the Koryak territory. Of the coniferous trees there are two species, — the East Siberian larch-tree (*Larix Dahurica* Turcz)[3] and the shrub of dwarf cedar or stone-pine (*Pinus pumila* Pall.), which represents a certain variety of the Siberian cedar (*Pinus cembra* L.). Its seeds, small edible nuts, and cones, are the same as those of the Siberian cedar, from which they differ only in size. Dr. Slunin thinks[4] that the Siberian fir (*Picea obovata* Ledb.) is also to be

[1] This trip proved very advantageous. Had I waited in Gishiga for the winter roads to become passable, I should not only have lost two months, but I should also have missed the opportunity of seeing the autumnal religious festivals described in Part I, Chapter V, and which heretofore were unknown.

[2] See the Jesup North Pacific Expedition, popular account (The American Museum Journal, 1903, Vol. III, No. 5, p. 103).

[3] While the Siberian larch-tree (*Larix Sibirica* Ledb.) occurs west of the Yenisei River, the Dahurian larch-tree (*Larix Dahurica* Turcz) grows east of it (see Professor S. Korshinsky, The Vegetation of Russia, in The Russian Encyclopædia of Brockhaus and Efron, Vol. XXVII, p. 45).

[4] See Slunin, I, p. 306.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

233 his relatives, and herdsmen. Between the Koryak tents my own little tent was
621 pitched. To move the entire camp required from forty to forty-five sledges. The moving of the camp of the Taigonos chief — who has a herd of five thousand reindeer, twelve herdsmen with their families, and three large tents — requires not less than a hundred and fifty sledges. The train is made up as follows: —

484 First comes the owner in a light sledge drawn by a pair of racing-rein-
28 deer. He drives fast, and leaves the train far behind. On the way he looks
492 up pastures, and selects a halting-place. The sledges, loaded with household goods and tent-furnishings, each drawn by one reindeer, are conducted by women. One woman leads a train of seven or eight sledges. The first sledge, in which the woman-driver is sitting, is pulled by a gentle reindeer, usually one that belongs to the woman. This sledge is followed by a covered sledge for children. Next come sledges with clothing, dishes, provisions, bedding, and the tent-covers. The last sledge drags behind it the poles of the tent, since no reindeer follow it. The transportation of the driving-sledges is effected by placing them on top of the baggage in the freight-sledges.

233 Plate XXV, Fig. 2, shows a doe just after delivery (May 7), with the antlers still on.

493 A description of sledges and the points of distinction between the different kinds — such as racing-sledges, driving-sledges (men's and women's), family sledges, freight-sledges, and sledges for carrying the poles of tents — has been given by Mr. Bogoras.[1] Koryak sledges are in no way different from those of the Chukchee. The plan of construction is as follows: —

Instead of straight stanchions there is a series of arches or ribs, the ends of which fit into sockets in the runners, to which they are tied by means of leather strips passing through holes. On these arches, which stand upright and are parallel to one another, a long rectangular frame is placed, having longitudinal and transverse bars forming a grating. The frame is attached to the arches by means of thongs. In racing and riding sledges, these gratings are used as seats. In freight-sledges there is an upright grating all around, and a horizontal grating forms the bottom of the body of the sledge. As in the case of the Chukchee, the riding-sledge of the woman is somewhat larger than that of the man.

The dimensions of the riding-sledges which I collected on my expedition are as follows: —

	Men's Sledge.	*Woman's Sledge.*
Length	216 cm.	228 cm.
Width	39 "	46 "
Height	28 "	37 "
Weight	17.5 lbs.	25 lbs.

[1] Bogoras, The Chukchee, Vol. VII of this series, pp. 89–92.

1: Jochelson E-5 (1900-01) 1908 RY1 Koryak RY4

Talovka one route leads by way of Rekinnok to Kamchatka, another by way of Vetvey to Qayilin. From Qayilin one route leads to the Opuka River, and another by way of Vivnik to Kamchatka. Along the most of these courses lies the official route over which the mail is transported. From Gishiga the mails are sent to three places and back again, — to Yakutsk by way of Okhotsk, to Petropavlovsk by way of Kamenskoye, and to Markova on the Anadyr by way of Shestakovo and the Russian settlement Penshinsk. Three mails are sent during the year from Gishiginsk to each of these three points, and as many return mails are received in Gishiginsk. The mails are sent in November, January, and April respectively. They are despatched on two or three sledges, one of which is occupied by the Cossack letter-carrier. As a rule, the mail is carried by dog-sledge; but over the Parapol Dol to North Kamchatka it is often carried by the reindeer of the local Koryak. In each settlement, Russian or Koryak, lying on the route, the dog-teams are changed. Some time ago the inhabitants of villages had to transport the mails free of charge; but of late the Government has fixed a fee of three kopeks per verst[1] for each sledge. The elder of each village gathers the dogs contributed by the villagers, receives the official fees and distributes them among the inhabitants. The elders come for their pay to Gishiginsk, or receive it from the district chief or his assistant when one of them makes the round of the district. The distance from Gishiginsk to Yakutsk is equal to 2975 versts; from Gishiginsk to Petropavlovsk, 2061 versts; and from Gishiginsk to Markova on the Anadyr, 700 versts.

In summer, communication between Gishiginsk and the interior ceases almost completely. Neighboring settlements or camps are reached by walking. The Maritime Koryak use skin boats, in addition. Until the year 1900, there arrived at the mouth of the Gishiga River during the summer one Government steamer from Vladivostok, not counting two trading-steamers. The Government hired a steamer of the voluntary fleet. In 1900 the Government entered into an agreement with the steamship company of the East Chinese Railway, calling for four cruisers to northern waters up to the mouth of the Anadyr. All the steamers had to stop at the mouth of the Gishiga River; and the steamer of the second cruise, at Baron Korff's Bay in addition. During the period 1900–02 these cruises were made regularly; but with the opening of the Japanese war, they were stopped entirely, and I do not know in what form they were renewed after the conclusion of peace.

There is no direct winter route from Okhotsk south to the Amur River and to Vladivostok. This almost precludes all winter communication between Gishiginsk, Markova, and Petropavlovsk, with Vladivostok, the last-named place being the seat of the Governor, to whom the Gishiga, Anadyr, and Kamchatka districts are subject. The only practical winter route between these places

[1] A verst is equivalent to 0.663 of an English mile.